

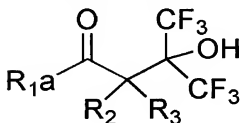
Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A fluorine-containing cyclic compound represented by the following general formula (1):

[Chemical Formula 30]

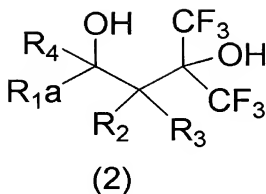


(1)

in the general formula (1), R_{1a} is a C₁-C₂₅ cyclic alkyl group, cyclic alkenyl group or cyclic alkynyl group; each of R₂ and R₃ is independently a hydrogen atom, a halogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group; and each of R_{1a}, R₂ and R₃ may contain fluorine atom, oxygen atom, sulfur atom, nitrogen atom or an atomic group containing a carbon-carbon double bond.

2. (Original) A fluorine-containing cyclic compound represented by the following general formula (2):

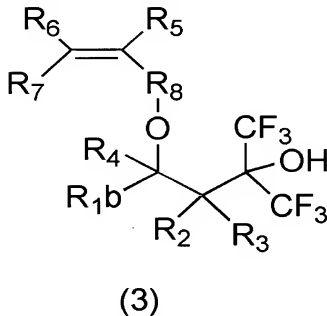
[Chemical Formula 31]



in the general formula (2), R1a is a C₁-C₂₅ cyclic alkyl group, cyclic alkenyl group or cyclic alkynyl group; each of R2 to R4 is independently a hydrogen atom, a halogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group; and each of R1a and R2 to R4 may contain fluorine atom, oxygen atom, sulfur atom, nitrogen atom or an atomic group containing a carbon-carbon double bond.

3. (Original) A fluorine-containing cyclic compound represented by the following general formula (3):

[Chemical Formula 32]

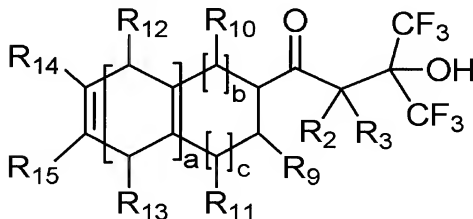


in the general formula (3), R1b is a C₁-C₂₅ cyclic alkyl group, cyclic alkenyl group, cyclic alkynyl group, aryl group, or heterocyclic group, and may contain fluorine atom, oxygen atom, sulfur atom, nitrogen atom or an atomic group

containing a carbon-carbon double bond; each of R2 to R7 is independently a hydrogen atom, a halogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group, and may contain fluorine atom, oxygen atom, sulfur atom, nitrogen atom or an atomic group containing a carbon-carbon double bond; and R8 is a carbonyl group or methylene group, or a single bond.

4. (Original) A fluorine-containing cyclic compound represented by the following general formula (4):

[Chemical Formula 33]

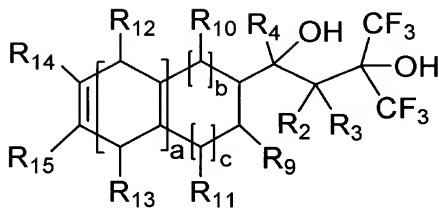


(4)

in the general formula (4), each of R2, R3 and R9 to R15 is independently a hydrogen atom, a halogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group, and may contain fluorine atom, oxygen atom, sulfur atom, or nitrogen atom; R10 and R11 or R12 and R13 may be bonded together to form a ring; in such case, it is an C₁-C₂₅ alkylene group that may contain oxygen, sulfur, nitrogen or hetero atom; and "a" is 0 or 1, "b" is an integer of 0-2, and "c" is an integer of 0-2.

5. (Original) A fluorine-containing cyclic compound represented by the following general formula (5):

[Chemical Formula 34]

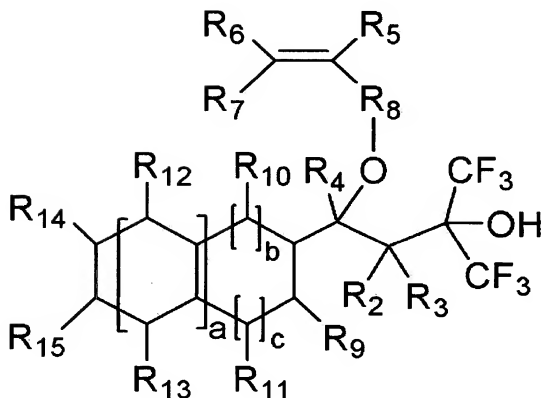


(5)

in the general formula (5), each of R₂ to R₄ and R₉ to R₁₅ is independently a hydrogen atom, a halogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group, and may contain fluorine atom, oxygen atom, sulfur atom, or nitrogen atom; R₁₀ and R₁₁ or R₁₂ and R₁₃ may be bonded together to form a ring; in such case, it is an C₁-C₂₅ alkylene group that may contain oxygen, sulfur, nitrogen or hetero atom; and "a" is 0 or 1, "b" is an integer of 0-2, and "c" is an integer of 0-2.

6. (Original) A fluorine-containing cyclic compound represented by the following general formula (6):

[Chemical Formula 35]

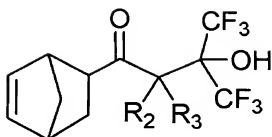


(6)

in the general formula (6), each of R2 to R7 and R9 to R15 is independently a hydrogen atom, a halogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group, and may contain fluorine atom, oxygen atom, sulfur atom, or nitrogen atom; R8 is a carbonyl group or methylene group or a single bond; R10 and R11, R12 and R13, or R14 and R15 may be bonded together to form a ring; in such case, it is an C₁-C₂₅ alkylene group that may contain oxygen, sulfur, nitrogen or hetero atom; and "a" is 0 or 1, "b" is an integer of 0-2, and "c" is an integer of 0-2.

7. (Original) A fluorine-containing cyclic compound represented by the following general formula (7):

[Chemical Formula 36]

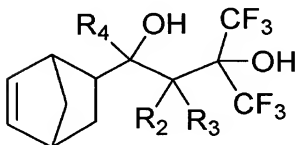


(7)

in the general formula (7), each of R₂ and R₃ is independently a hydrogen atom, a halogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group, and may contain fluorine atom, oxygen atom, sulfur atom, or nitrogen atom.

8. (Original) A fluorine-containing cyclic compound represented by the following general formula (8):

[Chemical Formula 37]

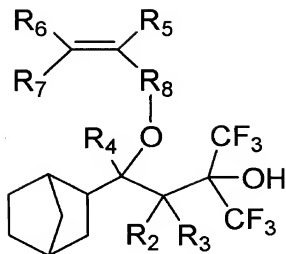


(8)

in the general formula (8), each of R₂ to R₄ is independently a hydrogen atom, a halogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group, and may contain fluorine atom, oxygen atom, sulfur atom, or nitrogen atom.

9. (Original) A fluorine-containing cyclic compound represented by the following general formula (9):

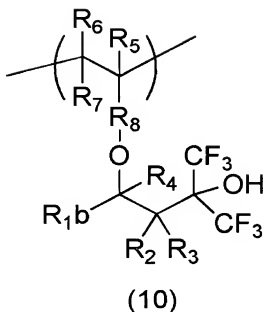
[Chemical Formula 38]



(9)

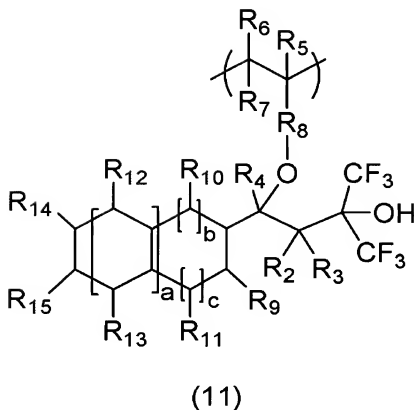
in the general formula (9), each of R2 to R7 is independently a hydrogen atom, a halogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group, and may contain fluorine atom, oxygen atom, sulfur atom, or nitrogen atom; and R8 is a carbonyl group or methylene group or a single bond.

10. (Original) A fluorine-containing polymer compound having a weight average molecular weight of 1,000 to 1,000,000, which is characterized in comprising a repeating unit represented by the following general formula (10):
[Chemical Formula 39]



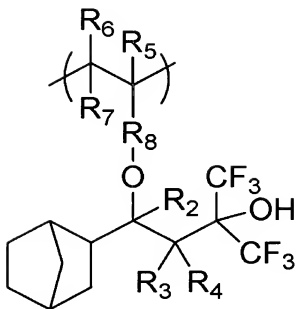
in the general formula (10), R_{1b} and R_2 to R_8 are defined as in claim 3.

11. (Original) A fluorine-containing polymer compound having a weight average molecular weight of 1,000 to 1,000,000, which is characterized in comprising a repeating unit represented by the following general formula (11):
[Chemical Formula 40]



in the general formula (11), R2 to R15 and a, b and c are defined as in claim 6.

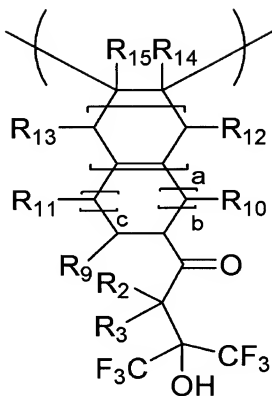
12. (Original) A fluorine-containing polymer compound having a weight average molecular weight of 1,000 to 1,000,000, which is characterized in comprising a repeating unit represented by the following general formula (12):
[Chemical Formula 41]



(12)

in the general formula (12), R2 to R8 are defined as in claim 9.

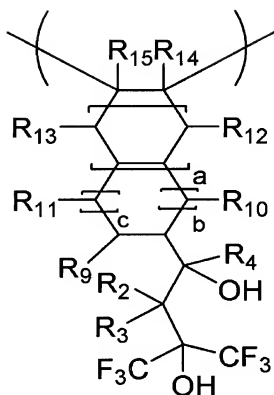
13. (Original) A fluorine-containing polymer compound having a weight average molecular weight of 1,000 to 1,000,000, which is characterized in comprising a repeating unit represented by the following general formula (13):
[Chemical Formula 42]



(13)

in the general formula (13), R2, R3 and R9 to R15 and a, b and c are defined as in claim 4.

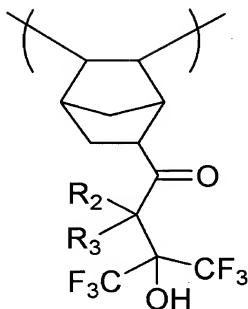
14. (Original) A fluorine-containing polymer compound having a weight average molecular weight of 1,000 to 1,000,000, which is characterized in comprising a repeating unit represented by the following general formula (14):
[Chemical Formula 43]



(14)

in the general formula (14), R₂ to R₄ and R₉ to R₁₅ and a, b and c are defined as in claim 5.

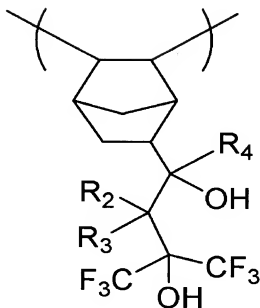
15. (Original) A fluorine-containing polymer compound having a weight average molecular weight of 1,000 to 1,000,000, which is characterized in comprising a repeating unit represented by the following general formula (15):
[Chemical Formula 44]



(15)

in the general formula (15), R₂ and R₃ are defined as in claim 7.

16. (Original) A fluorine-containing polymer compound having a weight average molecular weight of 1,000 to 1,000,000, which is characterized in comprising a repeating unit represented by the following general formula (16):
[Chemical Formula 45]

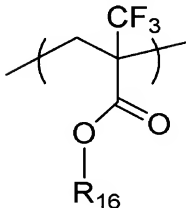


(16)

in the general formula (16), R2 to R4 are defined as in claim 8.

17. (Currently Amended) A fluorine-containing polymer compound having a weight average molecular weight of 1,000 to 1,000,000 according to ~~claims 13 to 16~~claim 13, which ~~is characterized in comprising~~comprises a repeating unit represented by the following general formula (17):

[Chemical Formula 46]



(17)

in the general formula (17), R16 is a hydrogen atom, or a C₁-C₂₅ straight-chain, branched or cyclic alkyl group, and may contain fluorine atom, oxygen atom, sulfur atom, nitrogen atom, hydroxyl group or hexafluorocarbonol group.

18. (Currently Amended) A fluorine-containing polymer compound according to ~~any one of claims 10-17~~ claim 10, which ~~is characterized in comprising~~ comprises a repeating unit having an acid-labile group.

19. (Currently Amended) A fluorine-containing cyclic compound ~~or fluorine-containing polymer compound~~ according to ~~any one of claims 1-18~~ claim 1, which ~~is characterized in that~~ wherein hydroxy groups contained in the molecule are partially or entirely protected with protecting groups.

20. (Currently Amended) A resist material ~~characterized in~~ comprising a fluorine-containing polymer compound according to ~~any one of claims 10-19~~ claim 10.

21. (Currently Amended) A chemically-amplified resist material ~~characterized in~~ comprising a resist material according to claim 20 and a photoacid generator.

22. (Currently Amended) A pattern forming process ~~characterized in~~ comprising ~~at least~~ the steps of:

- (a) applying a resist material according to claim 20 ~~or 21~~ to a substrate;
- (b) subjecting the substrate to a heat treatment;
- (c) conducting an exposure, using a high-energy ray of a wavelength of 300nm or less or an electron beam, through a photomask;

(d) subjecting the exposed resist film to a heat treatment; and
conducting a development treatment.

23. (Original) A pattern forming process according to claim 22, wherein the high-energy ray used is F₂ excimer laser, ArF excimer laser, KrF excimer laser or soft X-ray.

24. (New) A fluorine-containing polymer compound according to claim 10, wherein hydroxyl groups contained in the molecule are partially or entirely protected with protecting groups.